U.S. DEPARTMENT OF COMMERCE
National Oc anic and Atmospheric Admin.
National Ocean Service
Office of Ocean Resource Conservation and Assessment
Hazardous Materials Response and Assessment Division
c/o EPA Waste Management Division (H[redacted]6) (H10)
J.F. Kennedy Federal Building
Boston, MA 02203
23 April 1996

Ms. Christine Williams
U.S. EPA Waste Management Division
J.F. Kennedy Federal Building
Boston, MA 02203

Mr. Philip Otis
U.S. Department of the Navy
Northern Division - NAVFAC
10 Industrial Highway
Code 1811/PO - Mail Stop 82
Lester, PA 19113-2090

Dear Ms Williams/Mr. Otis:

I recently received a copy of a letter drafted by the Navy, dated 8 April 1996, that discussed the Navy's preferred remediation proposal for Site 09, Allen Harbor Landfill. Because the Navy is planning to submit the Draft Proposed Plan on 1 May 1996 I believe a response to the issues outlined in the letter is appropriate. This letter avoids the ARAR issue given that NOAA believes it is a legal issue that is best resolved by the legal counsel of the regulatory agencies. However, it is hoped that the selected remedy will reflect the technical information learned through the Remedial Investigation process.

Over the past several months there has been much debate concerning the contribution of the ground water to the intertidal and shallow subtidal sediments adjacent to the Landfill. It remains a serious source of conflict between the Navy and the State and Federal regulatory agencies. I have attempted to outline some of the disagreement but more importantly suggest a way to find answers to some of the unresolved questions thereby building a consensus in the selection of a remedial action.

1. Recently, EA Engineering, the Navy remedial contractor, estimated organic and inorganic Allen Harbor sediment concentrations based on the maximum and geometric mean ground water concentrations. Generally, modeled sediment concentrations were below screening criteria. However, one may debate the kd (metals) and koc (organics) used in the model; each were obtained from the literature . If the kd and koc values used by the EPA oversight contractor (ADL) are significantly different, as inferred by ADL during a recent meeting, then the two consultants should work together with the Navy and EPA to resolve the discrepancy. Given that the only variables in this problem are the literature derived kd and koc partitioning factors, it is hard to imagine that a consensus could not be reached if all parties worked together.

2. EPA has discussed their ground water concerns, particularly that involving potential contaminant concentrations and transport via the deep ground water on several occasions. A series of well points at the front of the landfill would provide information pertaining to chemical concentrations in the deep ground water. This likely would be a rapid and inexpensive field exercise that could also collect data to prove the EA (or ADL) model discussed above. Although I

am not yet convinced that arsenic is a contaminant of concern, the geochemical properties of a landfill provide a potential mechanism to transport arsenic and cause it to precipitate when reaching an oxygen-rich layer. I have seen this occur at other New England landfills. The model of such arsenic migration should be tested despite the low sediment concentrations seen so far. Again, testing this hypothesis could be rapid and inexpensive. I urge EPA and the Navy to take steps to complete these studies.

3. Much time has been spent discussing the ground water chemistry, what is known and not known. But what is well understood is the biological response to the landfill discharge of contaminants via both the surface flow of the landfill and the ground water. The results of the biological studies indicate moderate contamination in the intertidal sediments adjacent to the landfill causing some biological impact. Certainly, more extensive studies could be designed to better learn the extent of the injury but the Navy has agreed to remove much of the intertidal sediment as part of any of their three cap designs (FS Alternatives 2, 3, or 4). Hence, further biological study will not change the proposed remedial action. Because it is the biological response (and risk to human health) that should drive the remedy, we should strive for the removal of such sediment and a remedial design that will eliminate the source of most of the site-related contamination.

With this in mind, I have not seen any discussion on a remedy that would include the soil cap favored by the Navy along with an upgradient slurry wall. A soil cap with an abundance of clay should partially seal the landfill; ground water from upgradient moving through the landfill could be monitored and an upgradient slurry wall constructed if the resulting ground water/seeps are at concentrations indicating a threat to human health and the environment.

4. The issue concerning wetland creation has risen on several occasions. NOAA is very interested in the development of a salt marsh fronting the capped wetland. Although EPA has the responsibility to abate the contamination problem, NOAA, as a natural resource trustee, is interested in compensating the public for the lost use of the wetland habitat destroyed with the construction of the landfill. NOAA believes that the abatement of the contamination and restoration of lost natural resources are both important components of the remedial action. In fact, the creation of viable wetland areas would likely increase the habitat value of the intertidal zone near the face of the landfill. Since wetlands tend to be depositional areas for fine-grained sediments, they may also act as a sink for burying low-level residual contamination during the remedial and post-remedial phases. There has been some discussion from other wetland scientists questioning the reasoning of placing a wetland in an area that exhibits biological injury. My judgment is that the present intertidal contamination is, at most, moderate (and will be removed), the ground and surface water contamination will decrease with any of the remedies discussed, and the nature of the wetland sediment (e.g., high AVS, TOC) makes it unlikely that contaminants will be bioavailable.

I look forward to resolving the technical differences that exist between the Navy and the regulatory agencies and believe a solution based on technical merit can be developed with the collection of relatively little additional data. Please contact me with any questions.

Sincerely,

Kenneth Finkelstein, Ph.D.

cc: Tim Prior (USF&WS)